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FARMER & GARDENER.

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TERMS.—The FARMER AND GARDENER is published *semi-monthly*, each number containing 16 royal octavo pages, at *One Dollar* per annum per copy; *Seventy-five Cents* per copy for Four and less than Ten copies; and *Fifty Cents* per copy for Ten or more copies to the same Post Office. All subscriptions IN ADVANCE.

INDIANA FARMER & GARDENER.

Indianapolis, Saturday, July 12, 1845.

Editorial Estrays.

Legal provision is made, we believe, for the publication of all animal estrays. There is another kind for which there seems no remedy. We observe a vast number of articles well written by *somebody*, going the rounds of papers without brands, ear marks, or signs of any sort. Indeed several articles strongly suspected of being our own we have seen feeding in the pasture of other papers without any credit. We meet a few with other people's marks on them. We have before us several respectable newspapers, in which are articles that we remember to have seen in the Ohio Cultivator; one from the old paternal Cultivator, and several from the New England Farmer—the pater omnium—as for the "rascally" British periodicals, it serves them just right to foray upon them without paying a credit, for are they not our natural born enemies, and is not all fair in war! At any rate we see much English work passing quietly for original matter.

Now when we see whole pages extracted point blank, without credit, we always set it down to absent-mindedness; so we do when the credit is obscurely put in the middle of the article (like a title page bound up in the middle of a book) instead of at the beginning or end of it; so we do the act of making original articles by cutting off the head and tail of somebody's good article and tacking on a word or two of one's own and passing it on; certainly this is mere forgetfulness; and it is to be desired that an editorial class should be formed under Prof. Goureaud to learn the science of (look out for your jaws!) phreno-mnemotechny.

We have before us an excellent paper published in this State, in which *four* original articles are taken from the Indiana Farmer and Gardener, without a word of credit! We suppose the editor of that paper to have been absent when that number was set up, and the compositor neglected to give us credit; we have no doubt the editor felt chagrined when he returned and saw it, and we tender our sympathies to him.

In all sobriety, however, we would respectfully represent, that we are not sensitive on this subject because we desire the praise of the articles, but for a little more substantial reason. We desire to have our paper known throughout the State; and in no way can it be advertised so well as by the republication of its matter, *with its name attached*. In this way, through the various county papers, we hope to make the Indiana

Farmer and Gardener known to every farmer in every county of the State.

Harvests.

At last the wheat crop is cut, and for one year more there is no chance for murmuring. The straw is shorter than usual, but that is nothing; the head is not long, but the grain is admitted on all hands to be, not only good, but unusually fine, plump, heavy, of good color, and well conditioned. There has been almost no trouble with rust, smut, or fly, and farmers are quite in extacies. The harvest weather, too, has been fine. The grass has thickened up since the copious rains, and there will be a fair crop. There is enough old hay in the country to afford, very nearly, a supply for the year, even if the present crop wholly failed. Corn never looked better.

We have accounts from every wheat-growing State and territory, and instead of a failure, as was a few weeks ago feared, it will now prove to be a year of extraordinary harvests, and, we presume, the wheat crop will be larger than in any former year.

Farmers and Farming Scenes at the West.

No. 1.

If any one goes to Holland, they are all Dutch farmers there; if he goes to England he finds British husbandry; in New England it is all Yankee farming. A man must come to the West to see a little of every sort of farming that ever existed; and some sorts, we will affirm, never had an existence before anywhere else—the purely indigenous farming of the great valley. Within an hour's ride of each other is the Swiss with his vineyard, the Dutchman with his spade, the "Pennsylvany Dutch" and his barn, the Yankee and his notions, the Kentuckian and his stock, the Irishman and his shallilah, the Welchman and his cheese, besides the supple French and smooth Italian, with here and there a Swede and a very good sprinkle of Indians.

Away yonder to the right is a little patch of thirty acres owned by a Yankee. He keeps good cows, *one* horse only (fat enough for half a dozen;) every hour of the year, save only nights and Sabbath days, he is at work, and neat fences, clean door-yard, a nice barn, good crops, and a profitable dairy, and money at interest, shew the results. What if he has but thirty acres, they are worth any two hundred around him, if what a man makes is a criterion of the value of his farm. But a little farther out is a jolly old Kentucky farmer, the owner of about five hundred acres of the best land in the county, which he tills when he has nothing else to do. He is a great hunter and must go out for three or four days every season after deer. He loves office quite well, and is always willing to "serve the public" for a con-sid-er-a-tion, as Trapbois would say. As to farming; he hires more than he works; but, now and then, as at planting or harvesting, he will lay hold for a week or a month with perfect farming fury, and that's the last of it. As to working every day and every hour, it would be intolerable! He is a great horse raiser; is fond of stock; and if a free and easy fellow ready to laugh, not careful of his purse, nor particular about his time, will ride over his grounds, admire his cattle, his bluegrass pasture; his Pattons and his Durhams; and, above all, that blooded filley, or that colt of Sir Archie's—our Kentucky farmer will declare him the finest fellow alive, and his house will be open to him from year's end to year's end again.

Right along side of him is a "Pennsylvany Dutch"—good natured, laborious, frugal, and prosperous. He minds his own business. Seldom wrangles for office. Is not very public spirited, although he likes very well to see things prosper. He farms carefully, on the old approved plan of his father; plants by the signs in the moon, seldom changes his habits, and on the whole constitutes a very substantial, clean, industrious, but unenterprising farmer.

Then there is a *New York* Yankee; he has got a grand piece of land; has paid for it and got money to boot; he knows a little about everything; he "lays off" the timber for a fine large house—bossed the job himself. When it was up he stuck on a kitchen, then a pantry on to that, then a pump room on that, then a wood-house on that, and then a smoke-house for the fag end; a fine garden, a snug little nursery well tended, good or-

chards, by and bye a second farm, pretty soon a boy on it all married and fixed off; by and bye again another snug little farm, and then another boy on it, with a little wife to help him; and then a spruce young fellow is seen about the premises, and after a while a daughter disappears, and may be found some miles off on a good farm, making butter and raising children, and has good luck at both. The old man is getting fat; has money lent out; loves to see his friends; house neat as a pin; glorious place to visit, &c. &c. But who can tell how many sorts more there are, in this great heterogeneous west, and how amusing the mixture often is, and what strange customs grow out of the mingling of so many diverse materials. It is like a kalaidescope, every turn gives a new sight. We will take our leisure and give some sketches of men and manners and scenery as we have seen them in the West.

Sheep Raising. Mr. Flower.

Mr. Judah, while here during the last term of the courts, mentioned to us the name of Mr. George Flower, of Illinois, as one of the most experienced and skilful sheep raisers in the west; also, that he had published a pamphlet upon the subject. I could not find the pamphlet in this region, and, at Mr. Judah's suggestion, wrote to Mr. Flower for it, and for any information upon sheep-husbandry which it might be in his power to afford us. From the following extract our readers will be pleased to learn that Mr. Flower will be an occasional contributor for their benefit.

St. Maries, Jasper Co., Ill., 1845.

Mr. H. W. Beecher:

Dear Sir—I forward to you a "Western Shepherd," and if you deem its contents of any interest to your readers, you are quite at liberty to make what use of it you please. Please for the future to send the "Farmer and Gardener" to me at St. Maries. The accompanying communication will inform you why I went to Kentucky, and how I am now engaged. Watching over a new flock in a fresh location, with none but inexperienced hands to aid me, is a charge that will leave me but little time for correspondence. Yet I may find time to give you a brief report of the progress of this undertaking. The facts of the case, if faithfully reported, though they may not be of such present interest to the general reader, as a well written theory, yet they may become warnings or encouragement, to many, as the event turns out. Convinced of the excellence of the wool-growing business, in a general way, I am also aware of the many obstacles to success in a new flock composed of many small flocks and fragments of flocks, suffering necessarily more or less from a long drive; and all brought from rich bluegrass pastures to the prairies of Illinois, without previously-made fields and pastures, or shelter, or shepherds—to dare to make a boastful, or even sanguine prediction on the subject.

It is true, I think well enough of the attempt to take an interest in the flock, and shall give it my attention and care until I witness its complete destruction or its complete success.

Respectfully,

GEORGE FLOWER.

The enterprise in which Mr. Flower has embarked may be learned from the following account by Mr. Hooper of the Western Farmer and Gardener:

"We were lately visited by a French gentleman, Mr. Picquet, who informed us that a French Company has just been formed in Jasper county, Illinois, for the purpose of raising wool on a large scale, contemplating keeping several thousand sheep. They have been so fortunate as to have procured Mr. George Flower, of Albion, Illinois, the most skilful and experienced sheep raiser in the west, to be at their head. The father of Mr. Flower was the first importer of the Merino into England from Spain during the peninsular war. Mr. Flower has a fine flock of his own, and lately sold his wool at the east for fifty cents per pound."

In accordance with the permission of Mr. Flower, we shall republish his entire pamphlet in successive numbers of the Indiana Farmer and Gardener. It was published at New Harmony, Indiana, in 1841, and is entitled "The Western Shepherd."

Value of a Good Market.

A sprightly young farmer in our office a few days ago, held about the following language: "My farm is small, only fifty-four or five acres, but the land is good; the place healthy; I've not had a doctor in my house for eight years. I could have done well if I had only had a chance to sell anything. I could *trade*, but we lived pretty much within ourselves; manufactured or raised most everything we wanted, and trade was no object.

If I could get even a *low* price for produce I would be contented; so I took to driving stock east, but my horses died sometimes; my wheat was badly put in while I was gone; and it would have been better for me to have stuck to it, and staid at home."

There is a great deal of good sense in this; it shows the practical stagnation produced by commercial revulsions; it shews the necessity to farmers of a ready, steady, sure market; and the *price* is not so important as it is that the farmer may be *always sure of a cash price.*

Attention to Orchards.

Clean out your orchards. Let no branches lie scattered around. If in crops, let the tillage be thorough and clean. In plowing near the tree be careful not to strike deep enough to lacerate the small roots and fibres. An orchard should be tended with a *cultivator* rather than a plow, and the space immediately about the tree should be worked with a hoe. Look to the fence corners, and grub out all bushes, briars, and weeds. A fine orchard with such a ruffle around it, is like a handsome woman with dirty ears and neck.

Pruning may still be performed. Those who are raising young orchards ought not to prune at *any* particular time between May and August, but *all along* the season, as the tree needs it. If a bad branch is forming, take it out while it is small; if too many are starting, rub them out while so tender as to be managed without a knife and by the fingers. If an orchard is rightly educated from the first, there will seldom be a limb to be cut off larger than a little finger, and a penknife will be large enough for pruning. In the west there is more danger of pruning too much, than too little. The sun should never be allowed to strike the inside branches of a fruit tree. Many trees are thus very much weakened and even killed if the sun is violently warm. Over-pruning induces the growth of shoots at the root, along the trunk, and all along the branches.

Grub up suckers, and clear off from large and well established trees all side-shoots. After a tree is three inches in diameter through the stem, it may be kept entirely free of side-shoots. But young trees are much assisted in every respect, except appearance, by letting brush grow the whole length of their stem, only pinching off the ends of the whips, if they grow too rampantly. In this way the leaves afford great strength to the trunk, and prevent its being spindling or weak-fibred.

Scour off the dead bark, which, besides being unsightly, is a harbor for a great variety of insects, and affords numerous crevices for water to stand in. We have, already, in a former number, recommended soft soap, thinned with urine to the consistence of paint, as a wash for trees; we have seen nothing better.

Examine grafts if any have been put in. See if the wax excludes the air entirely; rub out all shoots which threaten to overgrow and exhaust the graft; if it is growing too strongly, it must be supported, or it will blow out in some high wind.

Look out for Blight.—The late frosts this spring, have left their effects in all the orchards in this region. We see on every hand patches of dry leaves hanging on the tips of branches in apple, pear, quince, and cherry trees. All trees that have, up to this time, shewn no indications of blight, will be safe for the season. But those which have shewn the affection may be expected to continue to break out through the season. It is all important to use the knife freely; for although there is no contagion from tree to tree, yet the diseased sap will, in the same tree, be conveyed from part to part over the whole fabric. But prompt pruning will remove the seat and source of the evil. Where a branch is affected, cut chips out of the bark along down for yards; indeed, examine the limb entirely home to the trunk, and you may easily detect any spots which are depositories of this diseased sap, which, by its color, and whole appearance, will be identified by the most unpracticed eye. Cut everything, a-low and aloft, that has this feculent sap in it, even if you take off the whole head by the trunk, and leave only a stump; for, the stump may send new shoots; but if the tree is spared from false tenderness you will lose it, bough, trunk, and root.

Renovating Peach Trees.

The peach tree inclines to thicken at the top, the small inside branches die, and are removed by every neat cultivator. As the branches shoot up, this tree is disposed to abandon its lower branches, and, like the vine, to bear on the wood the farthest from the root, i. e. the young and new wood. In a few years the tree has a long-necked trunk, sometimes several of them; while the weight of foliage and fruit is situated so as to act like a power applied to a lever; and as the fruit grows heavy, or a storm occurs, the tree is broken down. We have practiced the following method with success. In the month of July we saw off the top of one half of the tree, leaving about ten or twelve feet of stem, measuring from the ground. New shoots will now put out along the whole trunk; a part of these should be rubbed off, according to the judgment of the cultivator, leaving such as will give symmetry to the tree, *and form a head low down*. The second year, these branches will bear fruit, and the other side may then be treated in the same way.

This new head will require little meddling with for about four years. At this time, or whenever the tree is outrunning itself, the same process is to be renewed. But this time the tree will be composed of a multitude of smaller branches, instead of two or three main ones as at first. Some of these should be wholly cut out, and the wound smeared with a residuum of paint, or a thick white paint, or grafting wax, or anything that will exclude the air while the cut is granulating. The others are to be cut within, say, five inches of the old, original wood—leaving, thus, a stem of mere stumps. If the branches are taken entirely off, leaving only the oldest wood, the buds which would break from it would not be as healthy or vigorous as those which will spring from the stumps of the later branches.

Probably twenty or thirty whips will come to each stump; these should from day to day be reduced in number, until, at last, all are removed but one, and that one should, if possible, spring from the nearest point where the stump joins the old stem. When this new branch is obtained and fairly established, remove the stump with a fine saw, so as to leave the new branch, as nearly as possible, in the place of the old one. We remove the whips from a stump gradually in order to give the tree the advantage of their leaves as long as it can be done without interfering with the branch or branches which we are training out.

This method is to the peach what pruning is to the grape. The tree is kept in hand instead of sprawling abroad, a prey to its own weight and to storms; there is always a plenty of young wood for the fruit, which can be easily reached when one thins out, or gathers for use.

One of our trees taught us this method of its own accord in the summer of 1843. The weight of fruit was so great that we applied a prop to the middle of the branch; in a few days the branch broke short off at the point of the prop. It so happened that the three main limbs on one side of the tree acted in this manner. That same fall a strong growth of new wood shot out, and the next season I had on *that side* as fine a top as ever I had on any peach tree.

Agricultural and Horticultural News.

Prentice's Sale of Cattle.—Mr. E. E. Prentice of Albany, New York, has recently sold his whole herd of short-horns; one of the choicest in the country. They sold at prices varying from twenty-five to two hundred and fifty dollars, and averaged one hundred and ten dollars per head. We are not acquainted with these matters enough to form a judgment; but these prices struck us as being extraordinarily low for such high bred stock as Mr. P's was universally admitted to be.

Subsoil Plows.—During the agricultural convention at Columbus, Ohio, twelve subsoil plows were engaged by farmers in attendance. This is good news. We do not think *manuring* to be practicable in many large farms when from a hundred to a thousand acres are put in wheat, &c.; perhaps not necessary. But every farm should be deeply plowed—subsoiled if possible.

Mr. Ellsworth.—Few men have occupied a larger share of the attention of the agricultural world than this gentleman, late Com-

missioner of the Patent Office, but, probably better known as the author of "Ellsworth's Reports." We regard this innovation upon the practice of the patent office by which it is made to comprise a bureau of agriculture to have been one of the wisest changes. Mr. Ellsworth has retired from his arduous post to his farms near Lafayette, Indiana, where, we hope, he will be able to reduce to practice for his benefit and ours, the many valuable improvements and suggestions of his reports. Our readers will be pleased to hear that Mr. Ellsworth has consented to favor us with occasional assistance.

Major Reybald.—A writer in the Boston Cultivator gives an interesting account of this gentleman's flock of sheep; the Leicester or Bakewell breed. At two years old they weigh from thirty to forty pounds per quarter and some as high as forty-five, neat weight. This gentleman is blessed with six sons and six daughters, and his venerable wife was, at the time the writer resided there, dandling her thirty-fourth grand-child. Major R. and family have planted one hundred thousand peach trees in orchards.

German Gardeners.—In Germany the head gardeners are, usually, not only men of manual skill, but men of science and travel. An apprenticeship of three years is required of those learning; and they are furnished with written secrets in gardening by their masters. When the full term of apprenticeship has expired, they are initiated into a sort of gardeners' freemasonry. The now journeyman must travel, after his apprenticeship, for three years. He is furnished with pass-words and signs, and goes from city to city for work. Wherever he comes his passport and sign entitle him to food and rest at the *gardeners' lodging-house* and to as much money as will bring him to the next similar lodge. In this way, an initiated gardener may traverse the German empire, Deamark, and Holland, at the general expense, and returns an accomplished gardener, having seen all the great gardens and nurseries and become acquainted with the masters of the art.

A Traveling Tree.—The Russian General Demidow, was an enthusiastic collector of plants. Having laid out a botanical garden at Moscow, he sent two botanists to travel over the whole of Asiatic Russia for plants. Being himself at Rome, he found in the garden of a convent there, a beautiful orange tree growing in the open air. Paying a very large price for it, he had it taken up with an immense ball of earth, put into a box, and, upon a carriage made expressly for it, sent it to Moscow—more than a thousand miles!

Even this does not equal the extravagant enthusiasm of Prince Potemkin, the favorite of Catharine II, of Russia. Sir John Carr relates, on good authority: "In one of the Prince's journeys to the Ukraine, Gould attended him with several hundred assistants, destined for operators in laying out the grounds of Potemkin's residence in the Crimea. Wherever the prince halted, if only for a day, his travelling pavilion was erected, and surrounded by a garden in the English taste, composed of trees and shrubs, divided by gravel walks and ornamented with seats and statues, all carried forward with the cavalcade."

An Apologue or Apple-logue.

Two men planted out each one hundred apple trees. In six or seven years they began to bear. One had spared no pains to bring his orchard into the highest condition. He had constantly cultivated the soil about them, scraped off the rough bark, washed them with urinated soap, picked off every worm and nursed them as if they had been children. The other, pursuing a cheaper plan, simply let his trees alone; but the moss, and canker worms took his place and attended to them every year. When the orchards began to bear, the careful man had the best fruit, and the careless man covered his folly by cursing the nursery-man for selling him poor trees. In a year or two the careful man had two bushels to the other's one from each tree. Not to be out done, the latter determined to have as many apples as the former, and set out another hundred trees. By and bye, when they bore, the other orchard had so improved that it produced twice as many yet; another hundred trees were therefore planted. In process of time the first or-

chard of one hundred trees still sent more fruit to market than the three hundred trees of the careless man, who now gave up and declared that he never did have luck, and it was of no use to try *on his soil* to raise good fruit.

1. When a man is too shiftless to take good care of two horses, he buys two more, and gets from the four what he might get from two.

2. A farmer who picks up a cow simply because it is not an ox, and *is*, nominally lactiferous, and then lets the creature work for a living, very soon buys a second, and a third, and a fourth, and gets from them all, what he should have had from one good one.

3. A farmer has one hundred acres. Instead of getting seventy-five bushels of corn to the acre, he gets forty and makes it up by cultivating twice as many acres; instead of thirty bushels of wheat he gets twelve, and puts in acres enough to make up; instead of making one hundred acres do the work of three hundred, he buys more land, and allows three hundred to do only the work of one hundred.

4. A young woman, with a little pains, can have three times as many clothes as she needs, and then not look so well as a humble neighbor who has not half her wardrobe; wherefore, we close with some proverbs made for the occasion:

Active little is better than lazy much.

Carefulness is richer than abundance.

Large farming is not always good farming, and small farming is often the largest.

Scour your Plows bright!

Farmers may be surprised to know that their crops will depend a good deal on the color of the plows! yet so it is. Bright plows are found to produce much better crops than any other. It may be electricity, or magic for aught we know; we merely state the fact leaving others to account for it. But very much depends upon the manner of doing it, for merely scrubbing it by hand with emery or sand is not the thing—*it must be scoured by the soil*. It is found that the subsoil scours it better for wheat, than the top soil—for a plow kept bright by very deep plowing affords better wheat than a plow brightened by the surface of the soil. It is the same with corn. In respect to this last crop, if you will keep your plow bright as a mirror until the corn is in the milk, you will find that it will have a wonderful effect. I appeal to every good farmer if he ever knew a rusty plow to be accompanied with good crops?—Iron-rust on a plow-share is poisonous to corn.

A young farmer of about twenty years of age said to us the other day:—"If anybody wants me, he must come to my corn field; I live there—I am at it all the time,—I have harrowed my corn once, plowed five times, and gone over it with the hoe once." "Yes," said his old father who seemed, justly, quite proud of his son—"keep your plows agoing if you want to fetch corn. I never let the ground settle on the top; if it is beaten down by rain, or begins to look a kind of rusty on the surface, I pitch into it, and keep it as mealy as flour. The fact is our farmers raise more corn than they can tend, they can't go over the corn more than once or twice, and that'll never do, and I guess I'll show old Billy R.—that it's so."

Some ambitious farmers are pleased to "lay by" the corn very early; but it is not wise; for the grass is always more forward to grow about this season than any other;—and the ground will become very foul where corn is too early laid by, and, what is more to the purpose, a great deal of the nourishment of a crop is derived from the air and dew *conveyed to the roots*. This can be done only when the surface is kept thoroughly open.

ORIGINAL CORRESPONDENCE.

For the Indiana Farmer and Gardener.

Cucumbers and Striped Bugs, again.

I was quite amused with a correspondent's details of his experiments with spirits of turpentine upon the cucumber bug, (p. 168.) And not only amused at his humorous proceedings, but pleased that he should treat the readers of this paper with a report of a *failure*. Such reports are of more importance to the agricultural community than some writers appear to be aware; and it was with much satisfaction that I perceived the editor, in his advertisement, called as emphatically as types could be made to speak,

for a record of experimental *failures*, as well as of success.

Take the present instance as a very humble illustration of the general principle.—J. T. P. states that he has always succeeded in protecting his cucumber plants by oil of turpentine; (he did not call it a "specific" or a "panacea;" but merely stated an apparent fact.) M. tries the experiment and totally fails; perhaps others have been equally disappointed in the efficacy of the remedy, and have not acquainted us with the fact. Had M. kept silence also, what would have been the state of the case. J. T. P. would have used turpentine as long as he lived, knowing no reason why he should mistrust its protective agency: others, one after another, would have gone on spending their money and time in imitating, unsuccessfully, the practice of J. T. P., having no reason suggested why it should not answer. These failing, also keep silence; and, year after year, the turpentine remedy is brought to view through various channels, again and again, to disappoint new sets of experimenters.

Now put a large crop of corn in the place of a few cucumber vines; and some expensive process of cultivation, or some costly protective measures, in the place of a spoonful of spirits of turpentine; and consider the pernicious effects upon the terracultural class of experimenters, resulting wholly from a neglect to report the earliest failures.

But what is now the attitude of the cucumber question? M. has kindly notified us that *his* striped bugs are not to be "backed out" by any exudations of a pine tree. J. T. P., though long confiding in the remedy, is induced to review the whole premises. It is scarcely possible that the Indianapolis bugs are a different species from the Richmond bugs; (I don't mean the *big bugs*, but the little, striped, cucumber bugs.) Has J. T. P's turpentine acquired any peculiar virtue by age, by exposure, by accidental addition? Was it put into an assafetida bottle, by which its repulsive odor became enhanced? Did a stick of phosphorus fall into it and become dissolved? and does the scent lie there? or if J. T. P. had used no oil of turpentine, would his cucumbers have been molested? &c. &c.

Thus, enquiry of a profitable kind, (much more profitable if it pertained to a crop of wheat,) is awakened in the mind of J. T. P., and perhaps of many others who might be on the eve of repeating the experiment. Every experiment *now* made would probably be made with more caution; vigilance would be on the watch to detect the cause of failure on the one hand, or of success on the other.

I can but repeat the assurance to M., that my vines have been but little infested with the bug since I have used the oil. And this year, I merely glazed a small stick, or dipped a piece of corncob in the oil and laid it among the plants. I have at this moment *more* than the original number of "hills;" for, as there was a surplus of plants in most of them, I removed many to other newly made beds, and, all are flourishing: and what is more, among them is a plant which was snapped off by accident, so that the top lay upon the ground, a few ligneous fibres being all that apparently held the fractured parts together. Finding, from the secretion at the broken extremities, that the fracture was quite recent; and viewing the exuded matter as an equivalent of coagulated lymph, as a medical man would say, I placed the parts together again in careful coaptation, and gathered a little earth around the stem to act as splints. The plant has every appearance of having healed by the "first intention;" none but the seminal leaves and the first rough leaves having wilted: others appear to be in the course of developement.

If it was not that I know the yellow bug does visit my cucumbers, it would not be unreasonable to suppose that the *general products* of my garden, (fennel, coriander, onions, tomatoes, weeds, &c.,) exerted some conservative virtues over the tender cucumbers. But, at present, I cannot explain the difference in our results, unless we suppose the striped bug is much less numerous here and the oil of turpentine an unnecessary addition to our usual precautions, which with me are altogether desultory.

P. S.—J. T. P. does believe in the efficacy of "signs"—*true* signs. Can't M. appear under *his* proper sign? It is not a good sign to see a man exhibiting even a single *alias*. Jno. Smith, *alias* Philip Totum, *alias* A. B. C. &c. would not elicit that confidence, that Jno. Smith would, who is Jno. Smith always, exclusively. Will M. consider the question?

[I would respectfully enquire of J. T. P. who John Smith is? He is a ubiquitous person, and his *name* is not very 'exclusive.' We believe that there were ascertained to be *five hundred* John Smiths living in London alone.—*Ed.*]

Grass for densely shaded Lands.

In answer to the enquiry, (p. 153) whether orchard grass would be better for thick shades than bluegrass, I would refer the querist to the statements under *Dáctylis glomeràta*, p. 152. I take for granted, however, that by bluegrass he means *Pòa praténsis*. I have little doubt but that by proper preparation of the surface, and the use of orchard grass seed copiously applied in the spring (two bushels

to four to the aker) and well "brushed" in, (and it may be serviceable to roll it also, if the ground is porous) he will secure a good coat of verdure. I know no grass that is so patient of shade as the Dactylis.

Accentuation—Errata, etc.

I am particularly pleased with the practice adopted in this paper, of accenting technical terms; tending, as it does, to produce a uniformity and correctness of pronunciation; and aiding those who have no other orthoepical authorities at command. The general correctness of expression of all who have thus far contributed to its columns; the typographical accuracy, the apparent determination on the part of the editor and his correspondents to ferret out the *truth*, the prompt exposure of "venerable follies" and modern hoaxes, to say nothing of the amount of industry and research embodied on its pages, afford encouragement to believe, that we shall have, at the end of the year, a volume of *authentic* information, well worthy of preservation. But some articles must be offered before they can be finished with the smoothing plane; these must often show the marks of the jack-plane and drawing-knife; as (p. 152) Anthoxanthum is spelled Anthroxanthum: omit the r. A tautology occurs on the same page in the word "fragrance:" it should be "*presence* of benzoic acid." Page 154, for "medium heat" read "*meridian* heat;" and just below, for, "on the same month, 24th hour" I know not what I wrote, but there is some mistake in the manuscript or print. Will not some one go over the whole volume at the end of the year with a smoothing-plane; and with critical glasses (the pure, transparent sort, not green nor blue, but wholly untinged) detect blemishes and exhibit merits for the reader's sake? It would make an interesting display of tasteful variety. J. T. P.

For the Indiana Farmer and Gardener.

The Potato Blight.

Mr. Editor—I saw in No. 12, of the Indiana Farmer and Gardener for June, an article under the head of "Potato Disease," wherein you say "the potato crop has been extensively affected with a species of blight," and, if "it has been felt in Indiana," a request that "some one inform" you of the fact.

Something like ten days ago, and after the late rains had commenced, I discovered that the leaves on the tops (of one patch) of my potatoes, which extended horizontally, were dead. They had the appearance of having been frost-bitten, and were of a dark brown color. I attributed it to too much wet, as they were situated in a low piece of ground, where the water, (when it falls as copiously as it has of late,) stands for some time after falling. I took no further notice of it till two days after, when I found the entire tops were in "the same fix," though they always had kept their erect position. It occurred to me then, that the disease so much spoken of in the east, had extended to this region. What are the symptoms of that disease? Does it show itself this early in the season? I have examined another lot growing on high ground, which is yet entirely free from this defect. I send you by the bearer, a sample of the affected potato tops, that you may examine them for yourself and give your numerous readers your opinion upon the subject.

Yours, &c. M.

We shall mention this subject and endeavor to describe some of the symptoms of the blight, in our next number. Meanwhile, thanking M. for his vigilance, will not our farmers do likewise—examine and report to us the condition of their crops?—*Ed.*

For the Indiana Farmer and Gardener.

Electricity and Vegetation.

"Where is that whereof it may be said This is new? There is nothing new under the sun. It hath been already, of old time. *Solomon.*

Sir:—The little attention which it was in my power to give to the study of natural philosophy was at a time now so long past, that I am unable to enter into controversy with those whose opportunities have made them familiar with recent discoveries. Sir Humphrey Davy had not then invented his safety lamp, nor made the discoveries which have gained for him so great renown. The galvanic battery was known, but many of its powers and developements with which the scientific world is now familiar were yet in oblivion; and the fire produced by it and that produced by the electric machine were supposed to be different in their nature and effect. It was believed that lightling and the fire produced by the operation of the cylinder and cushion were the same thing; and they were both called electricity or the electric fluid, not because the name was descriptive, but because amber (electric) was easily excitable to produce the sparks. These sparks being visible and palpable, no one doubted of their existence or of their identity with lightning. The first time that I was made aware that the existence of electricity was considered as hypothetical, was by your observations on my first letter.

I make these prefatory remarks in the way of apology for any blunders in this communication, or in any future one; and also to shew that I am open to conviction of er-

ror by any who have had better opportunities of information than I should have had. And as it is possible that amongst your readers some individuals may, like me, be in need of information on these subjects, the correction of any erroneous statement or opinion of which I may be guilty may be of use to them as well as to me, so that what I write may not, I hope, be altogether void of utility.

I have been induced to address you again on the subject of the beneficial effects of thunder showers on vegetation, by reading the following paragraph in the Indiana State Sentinel, the truth of the statements in which I am not aware of any reason to doubt:

"Galvanism.—A writer in the Journal of Commerce says, that the use of galvanism in promoting the growth of plants is spoken of as something new. The Tribune mentions an experiment wherein a plant was made to grow three-fourths of an inch in twelve hours, by this means. But he is credibly informed that this mode of forcing rapid vegetation has been known and practiced in the East Indies from time immemorial. It is practiced in India by the jugglers and the Fakirs for the entertainment of the vulgar. A gentleman mentioned to him some extraordinary exhibitions of the kind, which he saw in India, a year or two ago. In these instances, they [the seeds] were put in the ground, covered with a basket, frequently watered, &c., and the plants grew six inches in half an hour."

It is now, I believe, admitted that the galvanic fluid and lightning, or electricity, are the same thing, but operating in a different manner, or operated upon by different causes. If so, and if there be any truth in the statements of the above paragraph, it tells in favor of my theory, that the lightning contained in the rain drops contributes to the growth of plants. It may be that certain impurities of the air brought down by rain help to supply the plant with food; but as man cannot live by bread alone, so the plant may require something besides food—something perhaps of a digestive nature, or perhaps a stimulant, to make it grow, and to make it healthy. Quere. If a plant could be so isolated as not to receive any aid from galvanism or electricity, would it not cease to grow? It is found that plants set in glazed flowerpots do not thrive so well as they do in pots which are not glazed. Is it because the glass being a non-conductor, the galvanic fluid has not sufficiently free access through the pot to the plant? Galvanism operates in many minute circumstances where it is but little suspected. We all know, that if we eat an egg with a silver spoon the spoon becomes oxidised. Now the spoon might stand in the egg for a week and the effect would not be produced; or the spoon may be applied to the lips and no oxyde will appear; but the contact of the lips, the spoon and the egg forms a voltaic battery, and the silver undergoes partial oxidation. Porter tastes better when drunk out of a silver cup than out of a cup of glass, because the porter, the lips, and the metal produce a galvanic effect on the porter which the glass, not being a conductor, cannot produce. Other similar instances might be given.

As to the *modus operandi* of lightning on plants, I must leave the consideration to persons better qualified to go into the investigation.

I am not fond of prolixity, but cannot prevail upon myself to conclude this imperfect essay without one remark.

We of the present age are prone to esteem ourselves wiser than the people of ages that have gone before us. We are apt to imagine that our knowledge of the arts and sciences is greater, not only than what existed in past ages, but also than what is enjoyed by any other people. Any philosophical discoveries which we may make, are, as we suppose, new to the world because they are new to us; whilst, if there be truth in the above quoted paragraph, galvanism is well known, and has been known "from time immemorial," in the East Indies. Not to the multitude, indeed, for in no country can the multitude know much of the sciences, but to many—to the learned, and to others who make themselves acquainted with particular branches, for the purpose of getting gain by amusing and astonishing the vulgar. What may be known in that ancient part of the world — what relics of science may still exist there, who can tell! Probably somewhat more than the application of galvanism. We shall become a wiser people if we do not suffer ourselves to be too much lifted up by our attainments. When some one complimented Sir Isaac Newton on the great discoveries which he had made in the sciences, his reply was, that he was like a child on the sea shore. He had picked up a few pretty pebbles on the beach, but the whole ocean lay unexplored before him. Such a spirit of humility tends much to the acquisition of knowledge, and the acquisition of knowledge increases our humility. The ocean of science still remains unexplored. G.

For the Indiana Farmer and Gardener.

Experiments in growing Pine Trees.

Mr. Editor: — Why is not the pine indigenous to this particular section of country? Is there anything that constitutes its vitality, where the pine grows spontaneously, in which the soil hereabouts is deficient?

In transplanting, in what soil or compost, does the pine flourish best? I am led to ask the above questions from an experiment I have lately made.

I had some pine trees set in my door-yard which did not thrive. The first season they only matured what little they had started before being taken up; merely *holding their own*. I supposed they would gain strength, and make up for lost time the succeeding year; but they still retained that spindling, yellow, sickly appearance. It then occurred to me that the soil was deficient in something; but what that something was, I knew not, unless it could be some ingredient that went to constitute the pitch or turpentine in the tree. How was I to come at it? I was no chemist, though to my shame be it said; for in my boyhood an offer to learn it, free of expense, was made me, but I was like many of our Hoosier farmers, who when asked why they do not plant an orchard, say, "Why, I am getting in years, and I shall never live to reap the benefit," and so with myself; learning chemistry, I thought, would never be of use to me. But, stop, I am *getting out of my row;* let me return and straighten it. I said I was no chemist, and could not tell the effect, but determined upon applying the spirits turpentine to the roots of my trees.

Before doing so, I had a conversation with a gentleman who has grown a great many pines, and he observed he had repeatedly determined, but, as yet, had neglected, to get some pine lumber, make shavings of it, and dig them in about the roots of his pines. My faith being strengthened, I went to work and put about 1 gill of turpentine into a gal. of water, and with a watering-pot, I watered the roots of two, and the third one experimented on, I sprinkled the lower limbs also. The next day the only effect discoverable was upon the limbs which received the liquid, in turning to a reddish brown hue.

I then dug a small trench, three inches deep, around, and about six inches from the trunk of each tree. In this trench I put one gill of turpentine; filling the little ditch immediately with water, and after it had settled I filled up the space immediately with soil. I saw no evil effect from this, and two days afterward I repeated the dose.

In about eight day's time I discovered a great difference in the looks of the trees. They had assumed a dark, healthy green, and appeared to have "just began to live," which proved conclusively to me, they were *pining* after something. The late rains set in soon after and I left them to take their own course.

This leads me to think, that, perhaps, the *balsam of fir* might be of benefit to the fir tree; the *oil of hemlock* to the hemlock tree; the *essence of spruce* for the spruce, &c. Very likely I have excited, by this whim of mine, your risibility, and Yankee like, you will answer my questions by asking if boiled cider would not be good for apple trees; peach brandy for the peach tree, and good old Medeira for the grape vine!

But here it is, sir, and if you do not like it you will have to do as a girl told me in my young days when I was looking about for a partner. I chided her for something she had done, when she observed, "If I did not like her I might lump her;" which I did by casting the whole lump from my mind as being too coarse a fabric for my sensitive nerves.

Jesting aside: I have sent you my experiment upon the pine, and if it is of use to you, improve upon it, if not, cast it aside.

Yours, &c., M.

REMARKS. — These experiments are curious, and worthy of a further trial. We express no opinion, as we have had no means of forming any. We recollected, on reading the above, having seen somewhere an account of manuring pines with their *own leaves*, and after some hunting found the following statement, from the Foreign Quarterly Review, (English) Jan. 1828. Speaking of the Cembra pine (Pinus cémbra,) a species of very slow growth, and valued in cabinet and house work for its odoriferous wood — it says: "In order to expedite and secure its growth, and thus remove the principal objection to its cultivation, the seeds should be deposited in a compost of earth, *and of chippings and leaves of the pinaster and the larch, or this compost should be put around the roots of the young plants.*" (See Loudon Ency. Gard. Sec. 770 p. 227)—*Ed.*

Western Shepherd.

[Revised by the author for the Indiana Farmer and Gardener.]

The great superiority of wool, as compared with beef and pork.—The amount of wool grown in Australia.—A comparison of the different breeds of sheep, to be found in the Western States.

It is the province of the farmer to furnish the raw material for food and clothing. Hitherto the farmers of Illinois have attended to the production of food alone; by so doing the competition is so great as to bring pork, beef, corn, and small grain to the lowest price, yielding no profit to the husbandman. The price of pork and beef, in Illinois, is

generally from two to three cents per pound. Yearling cattle are from three to five dollars each. Corn is, usually, from sixteen to twenty-five cents per bushel, and, not unfrequently, it sells as low as twelve and a half cents per bushel. Fourteen millions of acres of prairie grass grows within the limits of our State: the greater part of which grows but to die and be consumed by the fire.—When meat is two and a half cents per pound, and freight to New Orleans is only one cent and a quarter, the farmer gives one half his produce to carry the other half to market. A bushel of Indian corn weighing fifty-five pounds, at twenty cents, is not worth hauling twenty miles. Old habits are long continued, and those who have always grown corn will continue to do so even at six cents per bushel; and those who have only fed it to hogs will still do so when pork is only two cents per pound. The fact is generally admitted that much of our produce is too bulky to carry to market, and too worthless to sell at home. To point out a more profitable appropriation of our boundless pasturage, and abundant corn, is the object of this little treatise.

Wool is a staple article of commerce all over the world. This country buys much of it from foreign nations, which might be profitably raised by our farmers at home. Its small bulk, and great value, renders its exportation, at all times, easy and advantageous. This qualification alone ensures a competition of purchasers. Three cents per pound will send it from the interior of Illinois to France, to England, or to the Eastern States. A wagon load of pork (twenty hundred) is worth but fifty dollars; a load of corn but eight dollars; a load of hay but four dollars. Twenty hundred weight of wool at fifty cents per pound, is worth one thousand dollars. And the farmer might, if he pleased, carry all his produce in this form to his ultimate market, with his own team. But we could not send our corn and hay to England, even were we so disposed; it would not be suffered to go there. But turn that corn and hay into wool, and she will gladly pay cash for it. We want an article of export that will bring cash, and wool is that article. The imperishable, and almost indistructible quality of wool, renders it a safe article to keep, to transport, and to deal in. Our present produce is all perishable. Great losses are annually sustained from sour flour, bitter meal, and tainted meat. Wool is liable to none of these casualties.

An agriculturist is a species of manufacturer, and a sagacious manufacturer will always turn his machinery to the fabrication of those articles that command the best prices, and pay the best. To manufacture corn, hay, and grass, into beef and pork, at two or three cents per pound, is a very poor business. But to manufacture this same corn, hay, and grass into wool, at fifty, sixty, and seventy cents per pound is a very good business. We have fed other people, almost gratis, long enough; it is time that we should receive something for clothing them. Illinois [or Indiana] can feed the Union; and, if the efforts of her farmers are rightly directed, they can clothe it too.

In 1807 the whole quantity of wool produced in Australia was 245 pounds. In 1839 10,128,775 pounds, was sent from that colony to England, making a return of a million pounds sterling to British subjects, which, otherwise, would have gone to foreigners. England, alone, consumes, annually, wool to the amount of thirty millions of dollars. What has been done may be done. Five millions a year, in addition to our other produce, would be a very pretty picking for our farmers. Will they take it? It is within their reach. The intelligence and good sense of the farmers of Illinois, must give the right reply.

The common sheep of the country are found in flocks of tens and twenties, around the fence of almost every settler. When larger flocks are found, they are, with few exceptions, only a collection of these smaller ones, without any improvement. As a breed they have been utterly neglected *for several generations;* and have long since arrived, both in carcase and fleece, to the lowest point of deterioration. Yet, in this degenerate race, some marked characteristics, in face, form, or fleece, betray their origin to many of the well known breeds of England; and individuals may date their origin to the flocks of Flanders and Africa, and, of late years, a poor mixture of the Spanish blood has also been mingled. Most of them, however, resemble the unimproved Welch flocks, but are more leggy and slab-sided. They are not generally kept for sale, but their motley fleeces shorn at random, are consigned to the backwoodsman's wife, to clean, and spin, and weave into coarse clothing for her household. The effects of neglect and ignorance must be felt somewhere. In this instance the labor of the females is doubled, to what it might be. The making of a thread of worsted yarn is founded on the same principle as the making of a rope.—The more fine yarns put into a rope the stronger it is. The more fibres of fine wool put into a worsted yarn the stronger *it* is. In a common fleece a wool stapler will find eight sorts of wool: a few ounces of fine towards the ear and shoulder, the fleece diminishing in fineness until the hip-locks are coarser than horse hair. All this mixed up together

makes it bad to card, makes a bad yarn, a bad cloth, not wearing half the time that a cloth would do when made from a fleece of soft and uniform quality. These wretched animals show us how rapidly degeneracy will follow want of care. Doubtless, this stock was originally from choice imported breeds, at the first settlement of the country.

The Welch flocks, driven into England, sell for ten and sixpence, (two dollars each,) at the same time the various improved breeds that cover that whole country average, for all common purposes, from eight to ten dollars each. The highest price of a common sheep, in this country, is two dollars. May we not have our improved breeds! The warning and example are to be found in flocks of England as well as in those of this country. In that country, however, the great proportion of sheep are of improved and valuable breeds. In this, on the contrary, the generality of sheep are of the worthless class, and the improved flocks are few and small in number. GEORGE FLOWER.

From the W. R. Horticultural Magazine.

On Suckers of Fruit Trees.

BY PROF. KIRTLAND.

The employment of suckers as stocks for propagating fruit trees should be considered as a species of mal-practice among the nurserymen. It is followed by so many evils that it is discountenanced at this day by every judicious horticulturist, and we are happy to say that we believe it is discontinued by most or all of the practical nurserymen in this vicinity; though it is still a popular and common practice with the public generally. To our surprise, however, we discovered a number of the finest varieties of the pear recently received from one of the eastern nurseries to have been worked upon old and diseased suckers.

The cherry, plum, pear and apple tree, in a diseased condition, will often throw up numerous and thrifty sprouts that will offer to an inexperienced cultivator inviting temptations to multiply his stock at a rapid rate with little labor. If he be deceived by these appearances, and propagate his valuable kinds upon these diseased growths, his efforts will ultimately result in his disappointment.

It is not denied that in a few instances trees thus propagated may have been tolerably healthy, fruitful, and long-lived; but we hesitate not to affirm, that in *nine* cases out of *ten* the experiment will prove a total failure. All the failures and disappointments incident to the cultivation of fruits do not, of course, originate in this practice, but a long course of observation has confirmed us in the conclusion that several forms of disease in the trees and in their fruits, attributed to other causes, have their origin in this practice.

The late black Damison, the English Horse Plum, and the Kentish and Morello Cherry, have been propagated in this manner since the first settlement of Europeans in this country, and they have now all become so much diseased and degenerated as to be hardly worthy of cultivation.

The practice of grafting and budding pears upon this quality of stocks has extended a diseased action, a kind of canker among our pear orchards, that has in some instances been mistaken for *blight*, a disease that has its origin in the depredations of a minute coleopterous insect, which has been satisfactorily described in all its stages of transformation by Dr. Harris and other Mass. Entymologists. Vegetables as well as animals are subject to morbid or diseased action, which may be either functional or organic. Such diseased action may be propagated from the parent tree to its sprouts. Sprouts are, indeed, almost sure to inherit all the defects of the original tree. The very circumstance that a tree is disposed to throw up suckers is an evidence that its vitality has been impaired in some manner, either by mechanical injury, or by the occurrence of a morbid action in its system.

Our attention was attracted to this subject more than thirty years since, from witnessing the different results of the labors of two old and experienced nurserymen in the State of Connecticut. Both of these men had gained a livelihood for many years by following the nursery business. Each could point to many of the orchards in his respective vicinity as the product of his labor. The difference in health, vigor and fertility of the orchards originated by the one, compared with those of the other, was so apparent as to attract the attention of the most careless observer. One propagated exclusively upon suckers, the other upon young and healthy seedlings. Since that day we have seen two extensive cherry orchards, and several pear orchards propagated on sprouts, prematurely and suddenly die without any apparent cause. Instances of individual trees of this character thus dying, have been so common as not to escape attention. On the other hand we were acquainted with an English cherry orchard budded upon healthy Mazzard seedling stocks and transplanted from Prince's Nursery, not many years subsequent to the Revolutionary war, still healthy and vigorous as late as the year 1820, and we believe many of the trees remain so at the present day.

In the year 1840 we purchased a number

of Mazzard stocks at a nursery in Columbiana county, supposing them to be seedlings; subsequent information led us to suspect that we had been imposed upon. Last season our suspicions that they were worthless suckers were confirmed by the circumstance that they were filling our grounds in all directions with sprouts, and several of the trees suddenly dying; others are taking the same course the present season. The remainder are destined to be dug up the ensuing autumn and replaced by healthy and seedling stocks, though we shall lose by it the growth of several years.

Trees raised from suckers usually manifest some of the following tendencies, viz:

1st. *To send up annually from their roots a profusion of suckers.*

This tendency of itself diverts the sap from its legitimate channels, the body and limbs, and causes them to sicken from inanition, which also predisposes to attacks of other diseases, insects and premature decay.

2d. *To the formation of an excessive number of fruit buds.*

As this is a morbid action, the vigor of the tree is usually exhausted in the effort at forming the blow-buds, and no fruit in the end will be produced, or if any, it will be of an inferior quality, insiped, knotty and wormy.

3d. *To a stinted or dwarfish growth.*

The main stock may grow rapidly for a few years, but sooner or later some side-shoot will spring up and divert the nutriment to itself, and leave its predecessor to starve and decay, just as in these changing political times, one office-holder will flourish with an ephemeral growth of official patronage, till some more fortunate rival starts up to supplant him.

4th. *To decay or sudden death without any apparent cause.*

A rapid and strong growth for years may hold out the promise of a successful result, never to be realized. Portions of the bark and wood will soon decay or be attacked by insects, the whole of the tree perhaps stops its growth, and assumes a sickly appearance, or dies in a few days. Some or all of these unfavorable changes will occur at an early age.

In conclusion, we would observe that, no honest nurseryman will impose a sucker on his customers; and no considerate horticulturist will encumber his grounds with such a nuisance.

Greenscastle, Putnam Co., June 1, 1845.

Blight in Pear Trees.

Mr. Hatch:—The blight in the pear tree for the last twelve months, has been a subject of much interest to the pear-growing community; and, as I have had many cases under my inspection, I will here attempt to give you some of my views on this heretofore mysterious malady. I find three forms of blight existing among our pear trees.

1. Blight on large limbs and the trunk of trees, which was caused by frost in November, 1843.

2. Frost in November, 1844.

3. Frost 8th of May, 1845.

The first form here alluded to, has been described by H. W. Beecher, in the Western Cultivator, November No., 1844. He there gives it in his first illustration, consequently I will not speak of this form of blight at this time, but confine my remarks to its present features.

It is known that the small limbs, and even some whole tops of the pear tree blighted and dried up last summer and fall. But, in many cases, the embodiment of frost-bitten sap, occurring in large limbs, or the main trunk, has permitted the tree to ripen its fruit, mature its growth, and in every respect, (if not closely examined,) looks like a perfectly healthy tree. But at this time the flow of fresh sap begins to moisten and take up a portion of the vitiated sap that has sunk into the outer pores of the wood. This poisonous matter is now conveyed to the tender twigs and leaves, and in a short time the tree begins to languish and show symptoms of decay. The external signs are, first, dead leaves at the extremities of the branches; second, a viscous substance exuding from the bark, both above and below the part affected. The whole tree at this time is surcharged with unelaborated sap, where it is held in suspense until it becomes fetid, ferments and bursts the bark to make its escape. The bark, if cut in the immediate vicinity of the affected part, will be black; a small distance from this the outer bark will be of a brownish color, and the inner bark of a yellowish brown. The wood here is completely saturated with stagnant sap, which has a very disagreeable smell. At this stage of the disease death is inevitable.

We now come to the second case,—blight created in the fall of 1844. It appears strange that we should have blight this season, after a growing summer and a long ripening fall. But it must be bore in mind that the pear tree finished growing in the month of September, and many of them partially shed their leaves. The fall continuing warm, till a late period, and in the mean time a few showers of rain falling, caused my pear trees to push young buds on the ends and sides of their main branches, which should have remained dormant. Many bloom-buds also opened. On the appear-

ance of the first frost, which I thought would be likely to injure the young wood, I caused to be taken from a tree, (the Bon Chretien,) which had made a luxuriant growth, the five leading brances, some of which contained large bunches of bloom. The branches cut were taken off at the termination of the preceding year's growth, and were full five feet long. I was now apprehensive that I should lose two fine trees of the Duchesse D'Angouleme that stood close by, and which had put forth their dormant buds. The Bon Cretien which I topped is now apparently in a perfect state of health. The Duchesse D' Angoulemes both exhibited blight early in the spring, and I took their tops off before the 8th of May frost. One of them is now emitting a morbid matter, which is a sure evidence of death, and beyond the reach of remedy. The other I cut below the lodgment of frost-bitten sap, and I think it will recover.

Many of my pear trees this spring appeared to be backward in putting out, and many top branches deficient in buds, their limbs having a naked appearance long after they should have been covered with foliage. On examination, I found the buds had put forth last fall and had been killed. They now were compelled to remain naked till they could push the small dormant buds that are situated at the side of the main buds. On examination, I find nearly all of the last description of trees to have blight in some part of their top; generally at the locks of limbs, and some times at the juncture of the lower limbs with the body.

I will now present the third form of blight, caused by the frost in May last. The winter of 1844-'45 has been mild, scarcely killing the tender branches of the morus multicaulis; consequently, the ground has not been frozen to the depth of more than two or three inches. The winter broke early,—peach trees bloomed in March, about one month earlier than we have known heretofore. In April the cold was severe, which checked vegetation for a time, but it did no damage to the pear tree. The spring advancing rapidly from the middle of April, the pear trees that were not hurt by the frost in November, now put forth with great vigor; and by the first week in May last, had made from three to ten inches growth. Vegetation was now suddenly overtaken by a very hard frost, and the mercury sunk to two degrees below the freezing point.

The sap in the pear tree was now operated upon as it invariably is when blight follows. The leaf being thin is first frozen, the small twigs next, and then the branches, according to the size and the exposure.

The frost taking hold on the edge of the leaf, the juices recede until the whole leaf is frozen; and the sap, (unfit to form cambium,) is forced down under the bark of the small limbs, the points of which freezing next, and the bark closing behind the sap, propels it down to a place where the counter currents of the different branches meet, or a place where the thickened sap or perfect cambium clogs and holds it in check. If this be the case in the fall of the year, the bark closes below this lodgment, and there operated upon by the frost of winter, and changes from a thin mucus to a dark fetid mass; first killing the inner bark and young coat of alburnum, and, finally spreads the feculent matter through the whole tree. If this accumulation of frosted sap should take place in the spring of the year, it must of necessity be after the trees had begun to grow. This has been the case the present spring. I find many trees that have remained stationary since the morning of the 8th of May. By examination, the pith at the juncture of the old and new wood has been killed by the frost. The pith at this place is larger than at any other place in the limb, and acts as a reservoir to supply the bud and leaves. It serves, afterwards, as a sponge, and lengthens with the growth of the limb. This organ is killed in numerous cases in this vicinity; which will cause the trees to grow slowly, until they increase the volume of white wood which surrounds the pith. in the pear tree I apprehend that the water passing up through this pith, will have a tendency to augment its disposition to blight.

I have been cutting off many of my pear-trees which had blighted a year last fall, and which were permitted to ripen their fruit. In every tree I find the fell destroyer had finished his work. Some which had put forth well, were examined, but in every case I found them too far gone to ever recover. I dug up some that looked as though they might possibly survive the shock, and I found their roots stained with the fell monster blight. At this state of the disease, there is no remedy that will restore the tree.

When trees are blighted by spring frost, as is the case this spring, they can be saved, or at least so much of them as will be sufficient to bring on a new top again. The trees should be examined carefully after a frost, and the indications of blight will be, first, an odor like that from frost-bitten vegetation: 2d, dead leaves at the extremity of the limbs: 3d, unusual darkness on the bark, and if cut, will have the appearance of being boiled. The sap under the bark will be of a yellowish brown color. The wood will be completely saturated, and have the appearance of a water-cored apple. Another symptom is the bursting of the bark and the exudation of morbid matter. As soon as

these symptoms appear, cut off the limb below the part affected, for as far as this extends death will inevitably follow.

I have trees under treatment which I intend notifying you of hereafter. I tried one experiment, by inserting the matter of a blighted tree into a healthy one. The bark was opened carefully and the matter put in; the place was then bound up with a bandage of green leaves from a pear tree. Ten days afterwards the tree exhibited signs of blight for 10 inches below, but healthy above.

To make the pear worthy of cultivation in this country, I know of no better way than for horticultural societies and nurserymen to ascertain what varieties of pear are the hardiest, and them alone recommend. I find no advantage in the new varieties over the old. I regretted the loss of the Wurtemburg, so early to bear, but one of the tenderest of pears. Also the Passe Colmar, very fruitful, and one of the best, but tender. These went last year.

I find the Duchesse D' Angouleme, Fortune, Henrietta, Colmar Van Mons, Williams' Bon Chretien, Flemish Beauty, Genesee, and worse than all, the delicious Beurre D' Aremburg, blighted more or less all of them. Some old varieties have blighted badly, and some of them appear hardier than any of the new. Even the fall butter appears to be hardier with me than many of the new varieties. The Beurre Diel and Alexander of Russia are both going.

In all the observations which I have been able to make, I find nothing that can confute the idea that frost produces the blight. It is true that insects visit the blighted trees and feed upon the emitted sap, and some, (such as the barrel bug,) eat through the bark and cut innumerable holes in the sour wood, but these do not interrupt a healthy tree.

I will here suggest, although to me novel indeed, a protection against frost. As cold in its descent, is known to concentrate and attach itself to cold bodies, would not a metalic rod, on the north or west side of a pear tree, passing up through and above the top, and be attached to or inserted in a tub of cold water at the lower extremity, have a tendency to invite or conduct the cold down into the tub? An experiment of this kind might be made by some person who has a favorite pear tree. REUBEN RAGAN.

Western Cultivator.

The Farmer's Library.

More than half of the first number of the Farmer's Library and Monthly Journal of Agriculture is already stereotyped, and the remaining pages will rapidly follow. We barely hope, however, to issue the work promptly on the 1st of July, as some of the Illustrations require more time than we had estimated, and cannot be hurried. A fine Portrait on Steel of the late Hon. Stephen Van Rensselaer will face the title page, while an original memoir of that illustrious man, with especial reference to his labors in and services to the cause of American Agriculture and that of Popular Education, will open the Journal of Agriculture. We design this as the commencement of a series of portraits and biographical sketches of early and eminent champions of Agricultural Improvement, particularly but not exclusively those of our own country. It is high time that the fame and honors hitherto monopolized by Warriors, Politicians and Statesmen be bestowed in at least equal measure on those noiseless benefactors of our race whose tearless triumphs are won in the domain of rugged Nature, and of which 'the spoils' are enjoyed by the whole Human Family.

The Farmers' Library will open with Petzholdt's Agricultural Chemistry, originally published in London last year, and now first printed in this country. This work is less profound and dazzling than the justly celebrated treatise of Prof. Liebig on the same subject, but it is far simpler, less abstruse, and more readily understood by those who have little or no prior acquaintance with the science of Chemistry. It will be completed in two numbers of the Library (July and August,) and may be bound up by itself if any desire it. It will be found complete, concise, lucid, and a signal help to every practical farmer. We have, on mature consideration, decided to open with this rather than 'Stephen's Book of the Farm'—an excellent work, but very voluminous, and requiring extensive and continual alterations to adapt it to the wants of Farmers in this country. Petzholdt's Chemistry will cover less than 100 pages of the Library.

Among the contents of the Monthly Journal, will be found a full and clear account of the application of Electricity to Agriculture in England, its cost and its wonderful results. Also, of the application of Guano—the most approved methods and the effects, &c. &c. This will be by far the largest, and we hope the best Agricultural work ever published in this country. The Editor, Mr. J. S. Skinner, devotes himself unremittingly and joyously to his duties, and is determined to show that the projector and conductor of the first Farmer's periodical ever printed in this country has not fallen behind the times.

GREELY & M'ELRATH,
158 Nassau street, New York.

*** Editors, who would like to receive the Library, will oblige us by noticing the above.